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<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/031,873	AOYAMA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Charles Chow	2685	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/30/2004.
2. ☒ The allowed claim(s) is/are 15-26.
3. ☒ The drawings filed on 26 November 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

**Detailed Action**

***Allowable Subject Matter***

1. The following is an examiner's statement of reasons for allowance:

Applicant canceled claims 1-14, and adding new claims 15-26. The cited secondary reference, patent to Kanemoto et al. (US 2002/0115,466 a1) is not a proper reference for rejecting claims because Kanemoto et al. has a later filing date, while applicant claims priority benefit of the date 5/26/2000. The primary reference Westall et al. (US 6,718,161 B1) is also not a proper reference for claims rejection due to the later filing date 6/5/2000. Claims 15-26 are allowable over the prior art of record, the prior art fails to teach singly, particularly, or in combination, the subject matter, for the base station downlink high-speed packet transmission simultaneously to a plurality of selected users having little interference with each other, using an adaptive array, to form the antenna directivity pattern for controlling of the packet transmission with less interference to plurality of user terminals, the method and apparatus comprising: a priority determiner for determining individual priorities of a plurality of communication terminals in communication based on downlink channel quality; **a transmission destination determiner for determining a plurality of communication terminals having less interference with each other than a predetermined level, including a communication terminal having a highest priority;** a modulation system for determining a packet modulation based on downlink channel quality; a directivity transmitter that modulates a packet signal by the modulation system determined in the modulation system determiner and transmits the modulated packet signal with directivity to the communication terminal determined in the transmission destination

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determiner, as shown in independent claims 15, 26. The dependent claims are also allowable due to their dependency upon the independent claims.

The closest patent to **Westall et al. (US 6,718,161 B1)** teaches a base station 68 for mobile users 84 (Fig. 6a-6b), the received packet information having packet datum 76, transmission data 80 and transmission priority data 82, the processor arbitrates, judges, decides, the highest transmission priority based on the packet destination and transmission priority (col. 5, line 51 to col. 6, line 13), the transmitting beam is pointed to an angle 98 for transmitting packet data 76 to selected user 84 (col. 6, lines 25-41). Westall fails to teach a transmission destination determiner for determining a plurality of communication terminals having less interference with each other than a predetermined level, including a communication terminal having a highest priority, and the transmitting of the modulated packet signal with directivity determined in the transmission destination determiner.

Other prior arts in below has been considered, but they fail to teach the above claimed features.

**Scherzer et al. (US 2001/0031,647 A1)** teaches the forming of antenna beam for forward downlink communication with improved signal quality (abstract), the forming of forward link beam can be for M groups of subscriber units [0045, 0057], the selecting of users based on service priority metrics, queue priority, for the subscriber units in groups [0060, 0084]. Scherzer teaches the base station for forming antenna beam for groups of subscriber units for high data rate communication to avoid latencies [0012]. based on the service priority metrics [0060]. Scherzer fails to teach a transmission destination determiner for determining a plurality of communication terminals having less interference with each other than a

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predetermined level, including a communication terminal having a highest priority, and the transmitting of the modulated packet signal with directivity determined in the transmission destination determiner.

**Parkvall et al. (US 6,542,736 B1)** teaches the higher data rate transmission for the high channel quality, the lower bit rate for lower channel quality (col. 2, lines 9-24), the for mobile stations and the base station selected acceptable sector to perform transmission using sector antenna and rate selections in steps 180-186 in Fig. 12; col. 2, line 24 to col. 4, line 15). Parkvall fails to teach a transmission destination determiner for determining a plurality of communication terminals having less interference with each other than a predetermined level, including a communication terminal having a highest priority, and the transmitting of the modulated packet signal with directivity determined in the transmission destination determiner.

**Sawada et al. (US 2001/0055,287 A1) and Yamaguchi et al. (2002/0039,912 A1)** are also considered. However, they are having later filing date.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Chow whose telephone number is (703)-306-5615.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

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Edward Urban, can be reached at (703)-305-4385.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231


or faxed to: (703) 872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to 220 South 20th Street, Crystal Plaza Two, Lobby, Room 1B03, Arlington, VA 22202 (Customer Window).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Charles Chow *C.C.*

March 8, 2005.

  
EDWARD F. URBAN  
PATENT EXAMINER  
TECHNOLOGY CENTER 2600